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**REMARKS**

The Applicants respectfully request reconsideration of this application in view of the above amendments and the following remarks.

**Rejection Under 35 U.S.C. § 1.75(c)**

The Examiner has rejected claims 42 and 57 under 35 U.S.C. § 1.75(c).

Without admitting the appropriateness of this rejection, Applicants respectfully submit that claims 42 and 57 have been cancelled. Therefore, the rejection is believed to be moot.

**Rejection Under 35 U.S.C. § 112, Second Paragraph**

The Examiner has rejected claims 42, 45-46, 49 and 50, 57, 60, 61, 63 and 65 under 35 U.S.C. § 112, second paragraph.

Claims 42 and 57 have been cancelled. Therefore, the rejection of these claims is believed to be moot.

Applicants respectfully submit that claims 45, 46, 60, and 61 have been amended, based on the Examiner's suggestions, to overcome the rejections. Accordingly, Applicants respectfully request that the rejections be withdrawn.

Applicants respectfully submit that claims 49, 50, 63, and 64 have been amended to overcome the rejections. Furthermore, Applicants respectfully direct the Examiner's attention to the explanation of slicing in paragraph [0055] of the present patent application.

**U.S.C. §103(a) Rejection – Gamo and Skala**

The Examiner has rejected claims 34-64 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,976,725 issued to Gamo et al. (hereinafter referred to as "Gamo") in combination with U.S. Patent No. 6,394,207 issued to Skala (hereinafter "Skala"). The Applicants respectfully submit that the present claims are allowable over Gamo and Skala.

**Claim 34** pertains to a system comprising:

*"a hydrogen fuel cassette, the hydrogen fuel cassette having a housing defining an interior region and a hydrogen producing material selected from the group consisting of hydrides, nanotubes, fullerenes, and glass microspheres, in the interior region; and*

*a hydrogen recovery unit having a receptacle to receive the hydrogen fuel cassette, the hydrogen recovery unit having electromechanics to process hydrogen producing material that has been removed from the hydrogen fuel cassette to produce hydrogen;*

*a telemetry device coupled with the housing of the hydrogen fuel cassette to communicate information associated with the hydrogen fuel cassette; and*

*a device of the hydrogen recovery unit to receive the information communicated by the telemetry device of the hydrogen fuel cassette; and*

*a network connection of the hydrogen recovery unit to communicate information associated with hydrogen production to a network".*

Gamo and Skala do not teach or suggest these limitations. In particular, Gamo and Skala do not teach or suggest either: (1) that the hydrogen recovery unit has electromechanics to process hydrogen producing material that has been removed from the hydrogen fuel cassette to produce hydrogen; (2) a telemetry device coupled with the housing of the hydrogen fuel cassette to communicate information associated with the hydrogen fuel cassette; (3) a device of the hydrogen recovery unit to receive the information communicated by the telemetry device; or (4) a network connection of the hydrogen recovery unit to communicate information associated with hydrogen production to a network.

Gamo pertains to a fuel cell system, fuel feed system for fuel cell and portable electric appliance. See e.g., the Title. As discussed in the Abstract, a fuel cell system has a fuel cell of solid polymer type, a rectangular parallelepiped sealing container for accommodating hydrogen occlusion alloy for occluding hydrogen to be supplied to said fuel cell, a connection portion provided in a hydrogen passage between said sealing container and said fuel cell for connecting said sealing container and said fuel cell detachably, a valve mechanism provided in said hydrogen passage for opening and shutting hydrogen gas, and a hydrogen flow rate control mechanism provided in said hydrogen passage for controlling the flow rate of hydrogen gas, and/or hydrogen pressure control mechanism for controlling the pressure of hydrogen gas.

Skala pertains to thermal management of fuel cell powered vehicles. See e.g., the Title. As discussed in the Abstract, thermal management of a fuel-cell-powered electric vehicle having at least one high temperature heat transfer circuit and one low temperature heat transfer circuit each using the same dielectric heat transfer medium as the other. The circuits are in flow communication with each other so that hot heat transfer medium can flow from the high temperature circuit into the low temperature circuit, and cooler heat transfer medium can flow from the low temperature circuit into the high temperature circuit under controlled conditions for heating the fuel cell when it is cold, cooling a fuel processor when it is hot, and otherwise meeting the thermal demands of the vehicle.

- (1) Gamo and Skala do not teach or suggest that the hydrogen recovery unit has electromechanics to process hydrogen producing material that has been removed from the hydrogen fuel cassette to produce hydrogen.

As understood by Applicants, Gamo does not teach or suggest that the hydrogen occlusion alloy is removed from the rectangular parallelepiped sealing container in order to produce hydrogen. Rather, as understood by Applicants, in Gamo hydrogen is

recovered from the hydrogen occlusion alloy while it is still contained within the rectangular parallelepiped sealing container. See also column 9, lines 4-8, and column 12, lines 43-56. See also the pressure regulator 5 in Fig. 1 as a hydrogen pressure control mechanism coupled between the container 2 and the fuel cell main body 1.

As understood by Applicants, Skala discusses that a fuel processor 6, such as a steam reformer, may catalytically decompose liquid hydrocarbons to provide hydrogen. See e.g., column 1, lines 20-25. However, there is no teaching or suggestion that a hydrogen producing material selected from the group consisting of hydrides, nanotubes, fullerenes, and glass microspheres, be included in an interior region of a hydrogen fuel cassette. There is further no teaching or suggestion that such a hydrogen producing material be removed from the hydrogen fuel cassette to be processed by electromechanics of the hydrogen recovery unit to produce hydrogen.

Accordingly, there is no teaching or suggestion in Gamo and Skala that the hydrogen recovery unit has electromechanics to process hydrogen producing material that has been removed from the hydrogen fuel cassette to produce hydrogen. For at least this reason, claim 34 is believed to be allowable.

**(2) Gamo and Skala do not teach or suggest that a telemetry device is coupled with the housing of the hydrogen fuel cassette to communicate information associated with the hydrogen fuel cassette**

As understood by Applicants, the Examiner appears to be interpreting the rectangular parallelepiped sealing container of Gamo as the claimed cassette. However, Applicants respectfully submit that there is absolutely no teaching or suggestion in Gamo of a **telemetry device** is coupled with the housing of the rectangular parallelepiped sealing container. In fact, Applicants have performed an electronic search on the words of Gamo and Gamo does not even use the word "telemetry".

As understood by Applicants, Gamo does not even teach or suggest a hydrogen fuel cassette, let alone that a telemetry device is coupled with the housing of the hydrogen fuel cassette to communicate information associated with the hydrogen fuel cassette. In fact, Applicants have performed an electronic search on the words of Skala and Skala does not even use the word "telemetry".

Accordingly, there is no teaching or suggestion in Gamo and Skala that a telemetry device is coupled with the housing of the hydrogen fuel cassette to communicate information associated with the hydrogen fuel cassette. For at least this reason, claim 34 is believed to be allowable.

**(3) Gamo and Skala do not teach or suggest that the hydrogen recovery unit includes a device to receive the information communicated by the telemetry device**

As explained above, there is no teaching or suggestion in Gamo and Skala that a telemetry device is coupled with the housing of the hydrogen fuel cassette to communicate information associated with the hydrogen fuel cassette. There also is no teaching or suggestion in Gamo and Skala that the hydrogen recovery unit includes a device to receive the information communicated by the telemetry device. For at least this reason, claim 34 is believed to be allowable.

**(4) Gamo and Skala do not teach or suggest that the hydrogen recovery unit includes a network connection to communicate information associated with hydrogen production to a network.**

Gamo discusses that a container 505 which is a rectangular parallelepiped containing hydrogen occlusion alloy may be detachably set into a note type personal computer. See e.g., FIG. 25 and column 17, lines 24-33. However, as understood by Applicants, there is no teaching or suggestion that there is a network connection, let alone

a network connection to communicate information associated with hydrogen production to a network.

Skala pertains to fuel cell powered vehicles. See e.g., the Title. As understood by Applicants, there is no teaching or suggestion that the fuel cell powered vehicles have a network connection. There is absolutely no teaching or suggestion in Skala that the fuel cell powered vehicles include a network connection to communicate information associated with hydrogen production to a network.

Accordingly, there is no teaching or suggestion in Gamo and Skala that the hydrogen recovery unit includes a network connection to communicate information associated with hydrogen production to a network. For at least this reason, claim 34 is believed to be allowable.

For at least one or more of these reasons, claim 34 and its dependent claims are believed to be allowable over Gamo and Skala.

**Claim 35** pertains to a system comprising:

*"a hydrogen fuel cassette, the hydrogen fuel cassette having a housing defining an interior region and a hydrogen storage material in the interior region; and a hydrogen recovery unit having a receptacle to receive the hydrogen fuel cassette, the hydrogen recovery unit having electromechanics to process hydrogen storage material that has been removed from the hydrogen fuel cassette to produce hydrogen".*

Gamo and Skala do not teach or suggest these limitations. In particular, Gamo and Skala do not teach or suggest that the hydrogen recovery unit has electromechanics to process hydrogen storage material that has been removed from the hydrogen fuel cassette to produce hydrogen.

As discussed above, Gamo does not teach or suggest that the hydrogen occlusion alloy is removed from the rectangular parallelepiped sealing container in order to produce hydrogen. Rather, as understood by Applicants, hydrogen is recovered from the hydrogen occlusion alloy while it is still contained within the rectangular parallelepiped sealing container. See also column 9, lines 4-8, and column 12, lines 43-56. See also the pressure regulator 5 in Fig. 1 as a hydrogen pressure control mechanism coupled between the container 2 and the fuel cell main body 1.

As further discussed above, Skala discusses that a fuel processor 6, such as a steam reformer, may catalytically decompose liquid hydrocarbons to provide hydrogen. See e.g., column 1, lines 20-25. However, there is no teaching or suggestion that a hydrogen storage material be included in an interior region of a hydrogen fuel cassette. There is further no teaching or suggestion that the hydrogen storage material be removed from the hydrogen fuel cassette to be processed by electromechanics of the hydrogen recovery unit to produce hydrogen.

Accordingly, there is no teaching or suggestion in Gamo and Skala that the hydrogen recovery unit has electromechanics to process hydrogen storage material that has been **removed** from the hydrogen fuel cassette to produce hydrogen.

For at least one or more of these reasons, claim 35 and its dependent claims are believed to be allowable over Gamo and Skala.

**Claim 51** pertains to a system comprising:

*"a cassette, the cassette having an outer casing defining an interior region and a hydrogen producing material, in the interior region; and*

*a hydrogen recovery unit having a cassette intake and processor to extract the hydrogen producing material from the cassette, the hydrogen recovery unit having a reaction chamber to react the extracted hydrogen producing material to produce hydrogen".*

Gamo and Skala do not teach or suggest these limitations. In particular, Gamo and Skala do not teach or suggest that the hydrogen recovery system include a cassette intake and processor to extract the hydrogen producing material from the cassette, the hydrogen recovery unit having a reaction chamber to react the extracted hydrogen producing material to produce hydrogen. The discussion above is pertinent to this point.

#### **Dependent Claims Further Believed To Be Allowable**

**Claim 37** pertains to a system comprising “*an electronic device coupled with the housing of the hydrogen fuel cassette to store information associated with the hydrogen fuel cassette*”. Gamo does not teach or suggest that the container 2 has an electronic device to store information associated with the container. Skala does not teach or suggest a hydrogen fuel cassette, let alone a hydrogen fuel cassette having an electronic device coupled with its housing. Accordingly, claim 37 is believed to be allowable over Gamo and Skala. **Claim 53** is believed to be allowable for similar reasons.

**Claim 38** pertains to a system comprising “*a telemetry device coupled with the housing of the hydrogen fuel cassette to communicate information associated with the hydrogen fuel cassette; and a device of the hydrogen recovery unit to receive the information communicated by the telemetry device of the hydrogen fuel cassette*”. As discussed above, Gamo and Skala do not teach or suggest these limitations. Accordingly, claim 38 is believed to be allowable over Gamo and Skala. **Claim 54** is believed to be allowable for similar reasons.

**Claim 39** pertains to a system comprising “*a reaction chamber of the recovery unit to react the hydrogen storage material that has been removed from the hydrogen fuel cassette with a reactant to produce the hydrogen*”. As discussed above, Gamo and Skala do not teach or suggest these limitations. Accordingly, claim 39 is believed to be allowable over Gamo and Skala.

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**Double Patenting**

The Examiner has provisionally rejected claims 34-64 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 31-52 of copending U.S. Patent Application No. 10/099,274. The Examiner has provisionally rejected claims 34-64 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-27, 33-34 and 51 of copending U.S. Patent Application No. 10/241,125. The Examiner has provisionally rejected claims 34-64 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 12-18 and 24-38 of copending U.S. Patent Application No. 10/310,498.

Applicant will consider filing one or more Terminal Disclaimer to address the provisional rejections regarding U.S. Patent Application No. 10/099,274 and U.S. Patent Application No. 10/241,125 at a later date.

Applicants respectfully disagree with the rejection regarding U.S. Patent Application No. 10/310,498. Applicants respectfully submit that the claims of the present patent application are patentably distinct from the claims of U.S. Patent Application No. 10/310,498.

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**Conclusion**

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record and are in condition for allowance. Applicants respectfully request that the rejections be withdrawn and the claims be allowed at the earliest possible date.

**Request For Telephone Interview**

The Examiner is invited to call Brent E. Vecchia at (303) 740-1980 if there remains any issue with allowance of the case.

**Request For An Extension Of Time**

The Applicants respectfully petition for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17 for such an extension.

**Charge Our Deposit Account**

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Date: 1/25/07

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17